



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,384	09/16/2003	Jun Lu	COMMV.008A	1609
20995 7590 10/05/2009 KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614				
EXAMINER HASSAN, AURANGZEB				
ART UNIT 2182		PAPER NUMBER		
NOTIFICATION DATE 10/05/2009		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/663,384
Filing Date: September 16, 2003
Appellant(s): LU ET AL.

Christian A. Fox Reg. No. 58,507
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/5/2008 appealing from the Office action mailed 5/19/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Applicant's Admitted Prior Art, hereinafter AAPA, pages 2 - 6 of Instant Application

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Applicant's Admitted Prior Art (figure 1 of current application, hereinafter "AAPA").

Examiner notes that in the previous Office Action the rejection in light of the AAPA was cited in reference to the printed publication of the instant application which has been remapped to reflect the specification directly submitted by the Appellant. No new grounds of rejection have been cited.

3. As per claims, 1, 11 and 12 AAPA teaches a method, system and a recording medium comprising:

performing a first backup copy (primary copy, figure 1) of data stored in a data source, wherein said performing of first backup copy further comprises:

dividing the data in the data source into at least a first portion of data (first portion stored in 26, figure 1) and a second portion of data (second portion stored in 30, figure

1), the data comprising multiple file types (files which are accessed frequently and files that are not accessed frequently, page 3, lines 7 – 21), and;

transferring the first and second portion of data from the data source to a first storage medium (26, figure 1) and a second storage medium (30, figure 1) using a first data stream (50 to 26, figure 1) and a second data stream (50 to 30, figure 1) respectively to create the first backup copy of the data;

identifying the multiple file types of data in the first and second portions of data (administrator allows for data identification, page 3, lines 7 – 21);

determining based at least upon the file types if the first portion of data and the second portion of data in the first backup copy can be combined (page 3, line 23 – page 4, line 8);

if first portion of data and the second portion of data can be combined, performing a second backup copy of the first and second portions of data, wherein the second backup copy saves the first and second portions of data in a combined format (combine into storage medium 40, figure 1), wherein the performing of the second backup copy comprises:

transferring the first and second portion of the first backup copy of the data from the first and second storage medium to a third storage medium (26 and 30 are combined into 40 via 50a) by combining data streams from the first and second storage mediums, and

storing on the third storage medium, the additional copies of the data by storing in a combined format, the first and second portions of the first backup copy to create the

second backup copy (additional portions from 32 and 34 into 40); and restoring the first portion of data to the data source by retrieving the first portion of data from the combined format of the second backup copy (restoring the data from the second backup, page 5, line 14 to page 6, line 2).

(As per claim 12) accessing user input regarding whether the first and second portion of data should be combined (user controlled GALAXY software in which the user initiates a remount, page 2, lines 12 – 23 and page 4, line 17 – page 5, line 5).

The Examiner notes that the claims do not necessitate any parallel processing and do not necessitate the advantages therein to avoid mounting and un-mounting or those contained in pages 2 - 6 in order to increase efficiency of storage management systems. Furthermore the Examiner notes the inadvertent left out citation with regards to a limitation in claim 12 with respect to a user input however the determining stages of the claims with which 12 was grouped includes a user input, however the exact citation is provided to better elaborate and emphasize the lack of novelty over the prior art.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 5, 6 and 11 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amundson et al. (US Patent Number 6,154,852 hereinafter “Amundson”) in view of AAPA.

6. As per claim 1 Amundson teaches a method, system and a recording medium comprising:

performing a first backup copy of data stored in a data source, wherein said performing of the first backup copy further comprises (multiple requests are done simultaneously, column 8, lines 10 – 15 and recovery is done for one or more objects, column 12, lines 14 – 17):

dividing the data in the data source into at least a first portion of data and a second portion of data (File Data BLK, element 408, figure 4, column 4, lines 26 – 30);

transferring the first and second portion of data from the data source to a first storage medium and a second storage medium (tape 1 and 2, element 118, figure 2) using a first data stream and a second data stream respectively to create the first backup copy of the data (column 3, lines 22 – 49);

determining if the first portion of data and the second portion of data in the first backup copy can be combined (collaborative file ID 150 provides for a validation of the recovery data recombination process, figure 2, column 6, lines 1 – 22); and

if first portion of data and the second portion of data can be combined, performing a second backup copy (figure 9) of the first and second portions of data, wherein the second backup copy saves the first and second portions of data in a

combined format (column 12, lines 13 – 34, recovery process is backing up the data to a third storage medium by selecting the data from the first backup and combining it into a recovered storage medium), wherein the performing of the second backup copy comprises:

transferring the first and second portion of the first backup copy of the data from the first and second storage medium to a third storage medium by combining data streams from the first and second mediums, and (recovery can be performed using any number of tape drives from a single, column 12, lines 13 – 34, in the case of the second backup copy first and second tapes are selected along with the associated media definitions in order to recover onto a third tape as seen in column 12, lines 47 - 55)

storing on the third storage medium, the additional copies of the data by storing in a combined format, the first and second portions of the first backup copy to create the second backup copy (user specifies additional copies via existing media definitions, column 12, lines 18 – 26); and restoring the first portion of data to the data source by retrieving the first portion of data from the combined format of the second backup copy (upon recovery completion the media definition requested is restored, column 12, lines 50 – 55).

Amundson teaches various types of data in the data stream but does not explicitly teach identifying the multiple file types.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the method of Amundson to explicitly disclose the different processing of the multiple file types already included therein. One of ordinary

skill in the art would be motivated to make such modification in order to enhance data distribution in parallel devices (column 6, lines 32 – 34).

7. Amundson as modified by the teachings of claim 1 above, as per claim 11
Amundson teaches a recording medium comprising:

copying data from a data source to a plurality of storage media wherein said copying comprises:

dividing the data in the data source into at least a first portion of data and a second portion of data (File Data BLK, element 408, figure 4, column 4, lines 26 – 30);

transferring the first and second portion of data from the data source to a first storage medium and a second storage medium (tape 1 and 2, element 118, figure 2) using a first data stream and a second data stream respectively (column 3, lines 22 – 49);

determining if the first portion of data and the second portion of data can be combined (collaborative file ID 150 provides for a validation of the recovery data recombination process, figure 2, column 6, lines 1 – 22) based on files types of data contained by the first and second portions of data (column 6, lines 30 – 53); and

transferring the first and second portion of data from the first and second storage medium to a third storage medium using a third combined data stream (recovery can be performed using any number of tape drives from a single, column 12, lines 13 – 34) to create additional copies of the first and second portions of data wherein the additional

copies store the first and second portions of data in a combined format (user specifies additional copies via existing media definitions, column 12, lines 18 – 26); and restoring the first portion of data by retrieving the first portion of data from the combined format of the additional copies stored in the third storage medium (upon recovery completion the media definition requested is restored, column 12, lines 50 – 55).

8. Amundson as modified by the teachings of claim 1 above, as per claim 12, Amundson teaches a method for transferring data in a storage system comprising:

dividing a data source into at least a first and a second portion of data (File Data BLK, element 408, figure 4, column 4, lines 26 – 30);

transferring the first and second portion of data from the data source to a first number of pieces of storage media (multiple tape drives, element 118, figure 1 and 2, column 3, lines 22 – 49);

accessing user input regarding whether the first and second portions of data should be combined (user specifies when to begin recovery of data, combining first and second portion of data, column 12, lines 14 – 17);

determining if the first portion of data and the second portion of data are combinable (collaborative file ID 150 provides for a validation of the recovery data recombination process, figure 2, column 5, lines 1 – 22) based on files types of data contained by the first and second portions of data (column 6, lines 30 – 53); and

transferring the first and second portion of data from the first number of pieces of storage media to a second number of pieces of storage media, the second number

being less than the first number(recovery can be performed using any number of tape drives from a single, column 12, lines 13 – 34).

The examiner interprets the first and second stream, as Amundson teaches, to represent the connection between the first two tape drives in the backup process respectively. The examiner further interprets the recovery process combining at least the first and second storage media into the third single recovery tape drive media. Amundson teaches a system where a primary set of streams are used in a backup process and upon completion a recovery process combines data from the backup tapes into the recovery tapes.

9. Amundson as modified by the teachings of claim 1 above, as per claim 2 Amundson teaches a method, wherein the transfer from the first and second storage medium to the third storage medium is performed in chunks (split into reasonable chunks, column 11, lines 36 – 47).

10. Amundson as modified by the teachings of claim 1 above, as per claim 5, Amundson teaches a method wherein the transfer using the third data stream is performed based on a client identification of the first and second portion of data (Collaborative File ID, element 150, figure 2, column 5, lines 25 – 32).

11. Amundson as modified by the teachings of claim 1 above, as per claim 6, Amundson teaches a method wherein the transfer using the third data stream is performed based on respective stream numbers of the first and second streams (column 6, lines 1 – 14).

The collaborative file id allows for proper data stream recombination in the recovery stage as taught by Amundson.

12. Amundson as modified by the teachings of claim 1 above, as per claim 13, Amundson teaches a method additionally comprising providing a user notification if the first portion of data and the second portion of data cannot be combined (status for user, column 5, lines 7 – 18).

13. Amundson as modified by the teachings of claim 1 above, as per claim 14, Amundson teaches a method wherein the first portion of data is associated with a first application and the second portion of data is associated with a second application (multiple user applications 131, figure 2).

(10) Response to Argument

Appellant's arguments in the brief filed 12/5/2008 have been fully considered but the are not deemed to be persuasive.

The Appellant argues:

"AAPA does not disclose determining if multiple portions of backup data can be combined based on file types of the data."

Examiner's response:

The Examiner respectfully disagrees. The appellant argues that a combination of data is not based on file types of the data. On page 9 in the **Summary of Claimed Subject Matter** section of the Appeal Brief, the Appellant recites the claim language along with the citation from the specification to support the claim limitations. The pertinent passages are reproduced below:

"determining based at least upon the file types if the first portion of data and the second portion of data in the first backup copy can be combined; (see, e.g., page 12, lines 6 – 12; Block S106 of Figure 3)"

Page 12, lines 6 – 12, from the specification of the instant application, recite:

"If the user tries to point a SQL or DB2 sub-client to a storage policy that has a copy with the combine data stream option selected, the GUI warns the user that the multi-stream SQL or DB2 copies will not be copied using combined streams."

"If a storage policy is pointed to by a SQL or DB2 sub-client and the user tries to create a new copy with the combine data stream option selected or tries to select the combine data stream option for an existing copy, the GUI warns the user that the multi-stream SQL or DB2 copies will not be copied to an existing copy using combined streams."

The multiple files types are based on storage policies and accordingly AAPA clearly discloses multiple portions of backup data divided into a plurality of files types and smaller pieces based on the multiple storage policies seen in page 3, line 23 to page 4, line 16. A determination is made on the file type policies to combine that data via the 50/52 streams page 2, lines 19 – 23. Clearly one of ordinary skill in the art would recognize that AAPA teaches determining if multiple portions of backup data can be combined based on file types of the data.

The Appellant argues:

“AAPA does not disclose combining data streams to transfer multiple portions of data from different media to store data in a combined format on another storage medium.”

Examiner's response:

The Examiner respectfully disagrees. In response to Appellant's argument that the AAPA teaches two separate data streams 50 and 52 which store on separate storage mediums 40 and 44, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

The appellant has cited that AAPA does not teach the claim limitations because data streams 50 and 52 transfer data to separate storage mediums 40 and 44 and not a

combined format, which is indeed an additional advantage of backing up data via AAPA. However, in the most recent Office Action the Examiner has cited neither the data stream 52 nor the storage medium 44 in any capacity in the rejection. The first portion of data was clearly rejected under storage medium 26, the second portion was clearly rejected under storage medium 30 and the combined format was clearly rejected under storage medium 40 all transferred via adjusted first and second data streams 50. The appellant has cited a benefit of AAPA which was not utilized in the rejection and clearly one of ordinary skill in the art would recognize that AAPA discloses combining data streams to transfer multiple portions of data from different media to store data in a combined format on another storage medium.

The Appellant argues:

"AAPA does not disclose restoring a first portion of data to a data source by retrieving the first portion from a second backup copy having a combined format."

Examiner's response:

The Examiner respectfully disagrees. The Appellant has emphasized the phrases "to the data source" and "from the combined format of the second backup copy" to aid in the understanding of why the claimed invention has novelty over the prior art however simple underlining of words in the claim does not constitute novelty without appropriate explanation. Appellant's arguments do not comply with 37 CFR 1.111(c) because they do not clearly point out the patentable novelty which he or she thinks the claims present

in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections.

In response to Appellant's argument that the references fail to show certain features of Appellant's invention, it is noted that the features upon which Appellant relies (i.e., retrieving a portion of data from a combined format of an auxiliary backup copy, seen on page 17) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore the pertinent claim language with respect the appellant's arguments can be seen on page 10 in the **Summary of Claimed Subject Matter** section of the Appeal Brief, the Appellant recites the pertinent claim language along with the citation from the specification to support the claim limitations. The pertinent passages are reproduced below:

"restoring the first portion of data to the data source (25) by retrieving the first portion of data from the combined format of the second backup copy (see, e.g., page 13, line 15, through page 14, line 2; page 14, lines 8 - 9)."

Page 13, line 15, through page 14, line 2; page 14, lines 8 – 9, recites:

"A file system-like restore (involving indexing) includes one or more sub-clients. The sub-client restorations, may be performed serially, one at a time, in an arbitrary order or based on archive file location. For example, for each sub-client restore, archive files may be restored chronologically, such as in the order that the files were created. Alternatively or in addition, files may be restored, according to their offsets, such as restoring in order of offsets ascending within each archive file. Offset refers to the distance from a starting point, e.g., the start of a file. Movement within an archive file typically corresponds with higher

physical offsets from the beginning of the archive file. The archive files in a secondary or auxiliary copy that are created by combining data streams are by default ordered as required for restoration.

...

Backward movement, however, has a negative impact on performance. A multi-stream ORACLE or INFORMIX copy can be restored from a single stream."

As can be seen by the citation in the specification, provided by the Appellant to show teaching of how the "restoring" step works; restoring is a mere combination of data streams that may be performed one at a time as required for restoration. The points from the arguments cannot be seen in the citation nor in the claims and accordingly AAPA teaches the exact same restore mechanism as can be seen on page 5, line 14 to page 6, line 2. Clearly one of ordinary skill in the art would recognize that AAPA teaches the exact same mechanism to restore a first portion of data to a data source by retrieving the first portion from a second backup copy having a combined format.

The Appellant argues:

"AAPA does not disclose accessing user input regarding whether the first and second portions of data should be combined."

Examiner's response:

The Examiner respectfully disagrees. Although the Examiner in the process of grouping the similar claims inadvertently left out the citation of a user input, the Appellant is responsible for all citations directed to the rejected claims and germane to the reference. The grouped claims as rejected utilize a user input to initiate a determination

of combining the first and second data. No new grounds have been added but just a repetition of the same page and line reference, pages 2 – 6 that have already been cited to the appellant which includes a user input via GALAXY software to initiate a system restore and combination of data into a storage medium as can be seen in figure. Clearly one of ordinary skill in the art would recognize that AAPA discloses accessing user input regarding whether the first and second portions of data should be combined.

The Appellant argues:

"None of the cited references teaches or suggests determining if multiple portions of backup data portions can be combined based on filed types of data portions."

Examiner's response:

The Examiner respectfully disagrees. As can be seen above in the Examiner's response to the argument directed to the file types with respect to the AAPA, the Examiner reiterates that the claim limitations, as taught in light of the support cited by the appellant, teach file types as referring to multiple protocols to handle data.

Reproduced herein:

"determining based at least upon the file types if the first portion of data and the second portion of data in the first backup copy can be combined; (see, e.g., page 12, lines 6 – 12; Block S106 of Figure 3)"

Page 12, lines 6 – 12, from the specification of the instant application, recite:

"If the user tries to point a SQL or DB2 sub-client to a storage policy that has a copy with the combine data stream option selected, the GUI warns the user that the multi-stream SQL or DB2 copies will not be copied using combined streams.

If a storage policy is pointed to by a SQL or DB2 sub-client and the user tries to create a new copy with the combine data stream option selected or tries to select the combine data stream option for an existing copy, the GUI warns the user that the multi-stream SQL or DB2 copies will not be copied to an existing copy using combined streams."

Accordingly the Examiner had stated that although the files types were not explicitly disclosed in Amundson, one of ordinary skill in the art would be motivated to combine backup data based upon multiple file types. As can be seen by column 6, lines 32 to 34, Amundson addresses the different protocols/file-types which dictate variations in the backup data and shows advantages in that data backup is implemented using specification multiple data object definitions as defined by 140, figure 2, column 2, lines 63 – 67. Clearly Amundson is concerned with different protocols and would be motivated to identify multiple data types to enhance parallel backup and recovery methods.

The Appellant argues:

"None of the cited references teaches or suggest creating a second backup copy from portions of a first backup copy and restoring a first portion by retrieving the first portion from the combined format of the second backup copy."

Examiner's response:

The Examiner respectfully disagrees. The Appellant argues that Amundson does not teach the multi-level storage method of claim 1. In response to Appellant's argument that the references fail to show certain features of Appellant's invention, it is noted that the features upon which Appellant relies (i.e., multi-level storage method) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The Appellant argues that Amundson teaches a system that "appears to make a primary copy of an object across multiple backup tapes from which the object can be directly recovered to one or more recovery tapes" seen on page 24. The Examiner notes that this feature which the Appellant describes as being taught by Amundson is actually exactly what is necessitated by the claim limitations. The claims teach as seen on page 23 :

- (1) making a first backup copy of first and second portions of source data*
- (2) making a second backup copy, wherein the second backup copy stores the first and second portions of the first backup copy in a combined format*
- (3) restoring the first portion of data by retrieving the first portion of data from the combined format of the second backup copy.*

Accordingly step (1) is equivalent to Amundson making a primary copy across multiple backup tapes. Step (2) is Amundson directly recovering to one tape and step (3) is Amundson utilizing a recovered tape in a restored means which includes the first portion of data which was combined into the restored format,

furthermore the restore is done explicitly with the media definition 140 dictating the exact portion column 12, lines 19 – 25.

The restore is being interpreted by the passage which was cited earlier and reproduced again for complete understanding:

"restoring the first portion of data to the data source (25) by retrieving the first portion of data from the combined format of the second backup copy (see, e.g., page 13, line 15, through page 14, line 2; page 14, lines 8 - 9)."

Page 13, line 15, through page 14, line 2; page 14, lines 8 – 9, recites:

"A file system-like restore (involving indexing) includes one or more sub-clients. The sub-client restorations, may be performed serially, one at a time, in an arbitrary order or based on archive file location. For example, for each sub-client restore, archive files may be restored chronologically, such as in the order that the files were created. Alternatively or in addition, files may be restored, according to their offsets, such as restoring in order of offsets ascending within each archive file. Offset refers to the distance from a starting point, e.g., the start of a file. Movement within an archive file typically corresponds with higher physical offsets from the beginning of the archive file. The archive files in a secondary or auxiliary copy that are created by combining data streams are by default ordered as required for restoration.

*...
Backward movement, however, has a negative impact on performance. A multi-stream ORACLE or INFORMIX copy can be restored from a single stream."*

Clearly one of ordinary skill in the art would recognize that Amundson teaches creating a second backup copy from portions of a first backup copy and restoring a first portion by retrieving the first portion from the combined format of the second backup copy.

The Appellant argues:

"None of the cited references teaches or suggests accessing user input regarding whether the first and second portions of data should be combined."

Examiner's response:

The Examiner respectfully disagrees. The Appellant states that Amundson teaches user input in the determination of recovering data and not user input in the determination of a second copy. It appears as though the Appellant has not clearly understood the citations and teachings of Amundson. In Amundson a first backup copy is made in the scattering by first and second data portions to a set of storage medium. In the recovery process Amundson draws data from the first backup copy and stores them into a second "recovered" storage medium. The "recovered" medium of Amundson is directly analogous to the claimed second copy in all aspects of physical and logical structure therein.

In response to Appellant's argument that Amundson teaches a recovery copy and not a "second copy", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order

to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Aurangzeb Hassan
Patent Examiner
Art Unit 2182

Conferees:

/Kevin L Ellis/
Supervisory Patent Examiner, Art Unit 2117

/Ilwoo Park/
Primary Examiner, Art Unit 2182
Acting SPE of Art Unit 2182